WHAT IS CLAIMED IS:

1. An image communications system for receiving fax image data encoded with a specific facsimile data format and carrying transmission codes having no relation with image contents, converting the received fax image data into Internet-fax data in a specific format, and transferring the Internet-fax data to an Internet terminal as an in-system terminal, the system comprising:

a receiver to receive the fax image data supplied via a regular communications network;

a comparator to compare an encoding mode for the received fax image data and an encoding mode for the Internet-fax data for the Internet terminal;

a converter to add format data for the Internet-fax data to the fax image data with no decoding of the fax image data if there is a match in the comparison, for converting the format data-added fax image data into the Internet fax data; and

a transmitter to transmit the converted Internet fax data to the Internet terminal.

2. The image communications system according to claim 1, wherein the comparator includes:

a mode comparator to compare the encoding mode for the received fax image data and an encoding mode for the Internet-fax data to be used at the in-system Internet terminal;

a detector to detect whether or not there is a match between the encoding mode for the received fax image data and the encoding mode for the Internet-fax data; and

a data switch to output the fax image data to the converter if there is a match in a comparison result at the detector whereas to output the Internet-fax image data generated in the system to the converter if there is no match.

3. The image communications system according to claim 2

further comprising a code detector to detect codes of the fax image data supplied via the code comparator of the comparator, the code detector including:

a line-segment detector to detect a segment of the fax image data per line; and

a one- and two-dimensional code detector to compare the segment-detected fax image data with Huffman codes on a Huffman table, for one- and two-dimensionally detecting Huffman codes of the segment-detected fax image data.

4. The image communications system according to claim 3 further comprising:

a decoder to decode the segment-detected fax image data with Huffman codes stored on the Huffman table corresponding to an output of the one- and two-dimensional code detector, for generating the Internet-fax data in the system; and

an encoder to encode the decoded fax image data in the encoding mode for the in-system Internet terminal,

wherein the decoder includes the Huffman table and a decoding executer having a decoded-data generator to generate decoded data per line with Huffman codes, on the Huffman table, corresponding to the output of the one- and two-dimensional code detector and a line memory to store the data decoded per line, a page memory being interposed between the decoder and the encoder, the page memory storing, per page, the decoded data output from the decoder and supplying the decoded data per page to the encoder.

5. The image communications system according to claim 2, wherein the converter includes an Internet-fax data generator to output the fax image data to the converter if there is a match at the detector of the comparator between the encoding mode for the received fax image data and the encoding mode for the Internet-fax data whereas, if there is no match, add format data for the Internet-fax data to data output from the data switch, the output data carrying image contents for Internet facsimile.

6. The image communications system according to claim 1, wherein the comparator includes:

a supplier to supply a comparison result of comparing an encoding mode for fax image data supplied from a modem and an encoding mode for in-system Internet-fax data to the converter; and

a switch to switch G3-compatible code data supplied from the modem and Internet-fax image data encoded for an in-system terminal, having an input terminal for receiving the fax image data, another input terminal for receiving the Internet-fax image data, and a movable contact for switching the data at the two input terminals based on a result of the mode comparison, and

the converter includes a TIFF converter, in response to either the fax image data or the Internet-fax image data switched by the switch, to add TIFF data that is format data for the Internet-fax data to either the fax image data or the Internet-fax image data, thus generating the Internet-fax data.

7. The image communications system according to claim 1, wherein the comparator includes:

a mode comparator to compare the encoding mode for the received fax image data and an encoding mode for the Internet-fax data to be used at the in-system Internet terminal;

a detector to detect whether or not there is a match between the encoding mode for the received fax image data and the encoding mode for the Internet-fax data; and

a data switch to output the fax image data to the converter if there is a match in a comparison result at the detector whereas to output the Internet-fax image data generated in the system to the converter if there is no match,

the system further comprises a code detector to detect codes of the fax image data supplied via the code comparator of the comparator, the code detector including:

a line-segment detector to detect a segment of the fax image data per line; and

a one- and two-dimensional code detector to compare the segment-detected fax image data with Huffman codes on a Huffman table, for one- and two-dimensionally detecting Huffman codes of the segment-detected fax image data,

the system further comprises a specific-code deleter to detect and delete a specific code added to the fax image data for smooth transmission via facsimile, the specific code having no direct relation with images, for outputting specific code-deleted fax image data, and

the data switch of the comparator selects the fax image data supplied from the receiver, the internet-fax image data encoded in the encoding mode for the in-system Internet terminal or the specific code-deleted fax image data output from the specific-code deleter, the selected image data being output to the converter.

8. The image communications system according to claim 7 further comprising:

a decoder to decode the segment-detected fax image data with Huffman codes stored on the Huffman table corresponding to an output of the one- and two-dimensional code detector, for generating the Internet-fax data in the system; and

an encoder to encode the decoded fax image data in the encoding mode for the in-system Internet terminal,

wherein the decoder includes the Huffman table and a decoding executer having a decoded-data generator to generate decoded data per line with Huffman codes, on the Huffman table, corresponding to the output of the one- and two-dimensional code detector and a line memory to store the data decoded per line, a page memory being interposed between the decoder and the encoder, the page memory storing, per page, the decoded data output from the decoder and supplying the decoded data per page to the encoder.

9. The image communications system according to claim 7,

wherein the converter includes an Internet-fax data generator to output the fax image data to the converter if there is a match at the detector of the comparator between the encoding mode for the received fax image data and the encoding mode for the Internet-fax data whereas, if there is no match, adding format data for the Internet-fax data to data output from the data switch, the output data carrying image contents for Internet facsimile.

10. The image communications system according to claim 7, wherein the comparator includes:

a supplier to supply a comparison result of comparing an encoding mode for fax image data supplied from a modem and an encoding mode for in-system Internet-fax data to the converter; and

a switch to switch G3-compatible code data supplied from the modem and Internet-fax image data encoded for an in-system terminal, having an input terminal for receiving the fax image data, another input terminal for receiving the Internet-fax image data, and a movable contact for switching the data at the two input terminals based on a result of the mode comparison, and

the converter includes a TIFF converter, in response to either the fax image data or the Internet-fax image data switched by the switch, to add TIFF data that is format data for the Internet-fax data to either the fax image data or the Internet-fax image data, thus generating the Internet-fax data.

11. The image communications system according to claim 1, wherein the fax image data has been encoded by a G3-mode compatible encoding technique.

12. The image communications system according to claim 11, wherein the specific code having no relation with image contents are fill bits that have been added to the encoded data per line, depending on necessity.

13. The image communications system according to claim 11, wherein the G3-mode compatible encoding technique is modified Huffman (MH) encoding, modified READ (MR) encoding, modified-modified READ (MMR) encoding or joint bi-level image experts group (JBIG) encoding.

14. The image communications system according to claim 11, wherein the format data for the Internet-fax data includes data in a tag image file format (TIFF) that defines an attribute of the image data with information including a tag.

15. An image communications system for receiving fax image data encoded with a specific facsimile data format and carrying transmission codes having no relation with image contents, converting the received fax image data into Internet-fax data in a specific format, and transferring the Internet-fax data to an Internet terminal as an in-system terminal, the system comprising:

a receiver to receive the fax image data supplied via a regular communications network;

a comparator to compare an encoding mode for the received fax image data and an encoding mode for the Internet-fax data for the Internet terminal;

a code detector, based on the encoded data for which the encoding mode has been compared, to detect a specific code from a specific encode data, the specific code having no relation with image contents, and delete the detected specific code with no decoding of another code; and

a converter to add format data for the Internet-fax data to the fax image data with no decoding of the fax image data if there is a match in the comparison, for converting the format data-added fax image data into the Internet fax data; and

a transmitter to transmit the converted Internet fax data to the Internet terminal.

16. The image communications system according to claim 15 further comprising a code detector to detect codes of the fax image data supplied via the code comparator of the comparator, the code detector including:

a line-segment detector to detect a segment of the fax image data per line;

a one- and two-dimensional code detector to compare the segment-detected fax image data with Huffman codes on a Huffman table, for one- and two-dimensionally detecting Huffman codes of the segment-detected fax image data; and

a specific-code deleter, based on outputs of the one- and two-dimensional code detector, to detect and delete a specific code added to the fax image data for smooth transmission via facsimile, the specific code having no direct relation with images, for outputting specific code-deleted fax image data, and

the comparator including:

a supplier to supply a comparison result of comparing an encoding mode for fax image data supplied from a modem and an encoding mode for in-system Internet-fax data to the converter; and

a switch to switch G3-compatible code data supplied from the modem and Internet-fax image data encoded for an in-system terminal, having an input terminal for receiving the fax image data, another input terminal for receiving the Internet-fax image data, and a movable contact for switching the data at the two input terminals based on a result of the mode comparison, and

the converter including a TIFF converter, in response to either the fax image data or the Internet-fax image data switched by the switch, to add TIFF data that is format data for the Internet-fax data to either the fax image data or the Internet-fax image data, thus generating the Internet-fax data.

17. The image communications system according to claim 15, wherein the fax image data has been encoded by a G3-mode

compatible encoding technique.

18. The image communications system according to claim 17, wherein the G3-mode compatible encoding technique is modified Huffman (MH) encoding, modified READ (MR) encoding, modified-modified READ (MMR) encoding or joint bi-level image experts group (JBIG) encoding.

19. The image communications system according to claim 17, wherein the fax image data encoded by the G3-mode compatible encoding technique includes at least one EOL code, data related to the image contents and fill-bit data.

20. The image communications system according to claim 17, wherein the format data for the Internet-fax data includes data in a tag image file format (TIFF) that defines an attribute of the image data with information including a tag.